

Date: Tue, 10 May 94 04:30:24 PDT
From: Ham-Space Mailing List and Newsgroup <ham-space@ucsd.edu>
Errors-To: Ham-Space-Errors@UCSD.Edu
Reply-To: Ham-Space@UCSD.Edu
Precedence: Bulk
Subject: Ham-Space Digest V94 #119
To: Ham-Space

Ham-Space Digest Tue, 10 May 94 Volume 94 : Issue 119

Today's Topics:

A0-27 help?
APT-Satellites: Report MAY 07, 1994
FCC REGS?
Is there a Pacsat/Internet Gateway??
Mac Satellite Tracking Program
Please Help Me
Re: Re APT Wheather
TEST
What are MET-3/4, MET-3/5 and MET-2/21?

Send Replies or notes for publication to: <Ham-Space@UCSD.Edu>
Send subscription requests to: <Ham-Space-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Space Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-space".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 9 May 94 23:53:37 GMT
From: sdd.hp.com!hpscit.sc.hp.com!icon!greg@hplabs.hpl.hp.com
Subject: A0-27 help?
To: ham-space@ucsd.edu

Hi, folks,

Can someone walk through a typical pass of A0-27 for me? I am having a lot
of trouble with this one, more than I would have expected from the comments
I've heard.

Information that would be helpful:

downlink frequency at the start, middle, end of pass

uplink freq, how to find yourself
approximate signal strength expectations ("weaker than A0-21, but you don't
need a pre-amp", or some such statement)
uplink power
antenna requirements

I have about 30 watts into a 5 element beam for the uplink, and an 8 element
Quagi for the downlink. Cable runs are ~50 feet of RG-8 (I know this isn't
ideal, but I should hear *something*).

Thanks,

Greg KD6KGW

p.s. The same info for F0-20 would be OK too, but I expect A0-27 is easier.
I haven't been able to hit A0-21 yet either, but at least I can hear it clearly.

Date: Mon, 9 May 1994 06:07:36 -0600
From: ihnp4.ucsd.edu!swrinde!gatech!newsxfer.itd.umich.edu!nntp.cs.ubc.ca!alberta!
ve6mgs!path@network.ucsd.edu
Subject: APT-Satellites: Report MAY 07, 1994
To: ham-space@ucsd.edu

Observed at station 50.7 NLat, 7.1 ELon, MAY 07, 1994

NOAA-9: APT 137.62 On
NOAA-10: APT 137.50 On
NOAA-11: APT 137.62 On
NOAA-12: APT 137.50 On
Meteor 2-21: APT 137.40 ON again (weak)
Meteor 3-5: APT 137.85 On

Meteor 2-21 is back again, but weak as always (antenna-
problem). Meteor 3-5 is at the terminator, illumination-
conditions become bad. No IR-ransmissions during evening
ascending passes.

+-----+
|Peter Henne (peter.henne@gmd.de) |
| (henne@gmd.de) |
|German Nat.Research Center.f.Comp.Science |
|D-53754 St.AUGUSTIN, Germany |
+-----+

Date: 9 May 94 04:07:00 GMT
From: amd!amdahl!netcomsv!netcomsv!toadhall!ronald.hobbs@decwrl.dec.com
Subject: FCC REGS?
To: ham-space@ucsd.edu

CROSSPOST ALERT

I have seen Ramsey Electronic's Ads for transmitters for "Dorm" stations, etc.

I would like to put a station on the air that doesn't violate any FCC Regs or entail great licensening expense (or power). Does anybody know anything? I am a ham radio operator, don't want to jeopardize my ticket or run a pirate station. I have the "book" here but who knows chapter and verse?--the FCC lines are always busy.

Thanks for your space and time. 73 de Ronald.

~ SLMR 2.1a ~ Backup not found: (A)bort (R)etry (P)anic

Date: 10 May 94 06:55:59 GMT
From: agate!howland.reston.ans.net!pipex!demon!kgreen.demon.co.uk!
Jeff@ucbvax.berkeley.edu
Subject: Is there a Pacsat/Internet Gateway??
To: ham-space@ucsd.edu

In article: <5k7s8R1.dentarthur@delphi.com> Jim Corenman <dentarthur@delphi.com> writes:

>

> This is probably a dumb question, but I've been unable to find the answer
> amongst the packet or satellite faq files, or anywhere esle I've looked.
> Frequencies and modes I found, but is it possible, on a routine basis,
> to pass messages between the packet birds and internet e-mail?

>

It is possible, and it is even implemented by both VITA and SatelliLife on the non-amateur birds, but I think that the regulatory problems have kept anyone from doing it on the amateur packet satellites.

Jeff Ward

Date: 7 May 94 18:35:02 GMT
From: agate!howland.reston.ans.net!europa.eng.gtefsd.com!news.ans.net!
newstf01.cr1.aol.com!search01.news.aol.com!not-for-mail@ucbvax.berkeley.edu

Subject: Mac Satellite Tracking Program
To: ham-space@ucsd.edu

In article <2qdll3\$icm@post.its.mcw.edu>, mmjjmm@post.its.mcw.edu (Michael Malloy) writes:

*** Satellite tracking ***
<SatTrack v1.02>

Tracks one satellite across a world map as it moves, displays the instantaneous position of several satellites, or generates tables of all satellites visible from a certain location at a given time. Also calculates beam headings, Maidenhead grid locations, and MUFs. Shareware. Available via anonymous FTP from sumex-aim.stanford.edu (/info-mac/app). Or send a formatted 800K Macintosh disk with stamped, self-addressed disk mailer to Mike Pflueger, WD8KPZ, 6207 W. Beverly Lane, Glendale, AZ 85306.

<MacSat v3.1>

Tracks up to 21 satellites simultaneously, either in simulation or real-time mode. Text screen displays ground-track coordinates, range, mean anomaly, visibility (azimuth and elevation) and Doppler shift frequency information for all satellites being tracked. Graphical screen portrays the satellite ground tracks superimposed on a world map. Polar plot displays graphically the precise location of each visible satellite above the observer's horizon. Developed by the Geodetic Research Laboratory of the University of New Brunswick. Available from Richard B. Langley, R.R. 12, Fredericton, N.B. E3B 6H7, Canada (Internet: lang@unb.ca). A demo version of MacSat may be ftp'ed from directory PUB.CANSPACE on unbmvsl1.csd.unb.ca.

System 7

<OrbiTrack> <OrbiTrackFPU v2.1.4>

Calculates look angles to selected satellites, plots current satellite positions on a world map, and displays the visible passage of a satellite against background stars (either within the program itself or via a data file that can be read into the Voyager astronomy program). Please note that one version requires an FPU to operate! BEK Developers, P.O. Box 47114, St. Petersburg, FL 33743. (Bill Bard, CompuServe: 75366,2557) (Note: This replaces BEK's previous MacSat program, which was not related to the program of the same name from UNB.)

<QuikMac>

Macintosh version of N4HY's QuikTrak program. Requires Microsoft BASIC. AMSAT, P.O. Box 27, Washington, DC 20044.

<Satellite Orbit Prediction Program>

Macintosh conversion of W3IWI program. Requires Microsoft BASIC. Send formatted 800K Macintosh disk with stamped, self-addressed disk mailer to Earl Skelton, N3ES, 6311 29th Place NW, Washington, DC 20015. Or send self-addressed stamped envelope for source listing.

<Satellite Pro>

Uses world maps and tables to indicate rising and setting schedules, current locations, mutual visibility opportunities, and footprints. Includes Mercator, polar, and great-circle displays. Optional antenna control. MacTrak Software, P.O. Box 1590, Port Orchard, WA 98366.

<MacSPOC>

Author is on AOL and can be reached as adamod@aol.com via the internet.

Misc. Internet FTP sites for
Amateur Radio Macintosh software

```
joker.optics.rochester.edu (/ham )
sumex-aim.stanford.edu    (/info-mac/app)
mac.archive.umich.edu     various locations
uxc.cso.uiuc.edu          (/pub/ham-radio)
ucsd.edu                  (/hamradio) many different subdirectories
                           (/hamradio/packet/tcp/incoming) newest
                           files temp holding area
                           (/hamradio/packet/tcpip/pa2aga)
                           NET/Mac & IM/Mac area

ftp.apple.com              (/pub/ham-radio)
akutaktak.andrew.cmu.edu   (/aw0g)
softkiss-mac.nic.switch.ch (/software/mac/ham-radio)
world.std.com              (/pub/hamradio/mac)
```

This should help.

73 for now.... c u on the shortwaves
Terry Stader - KA8SCP
America Online Ham Radio Club Host
Internet: tstader@aol.com (files <28K) or
p00489@psilink.com (files >28K)
KA8SCP@WA1PHY.#EMA.MA.USA.NOAM
ka8scp@ka8scp.ampr.org [44.56.4.82] Mac
ka8scp-1@ka8scp-1.ampr.org [44.56.4.120] DOS Clone
(they're BOTH pc's!)

Date: 10 May 94 00:19:13 GMT
From: sdd.hp.com!hpscit.sc.hp.com!icon!greg@hplabs.hpl.hp.com
Subject: Please Help Me
To: ham-space@ucsd.edu

Michael Malloy (mmjjmm@post.its.mcw.edu) wrote:

: I am interested in getting started in satellite communications and would
: like to get more information. If you have any files or information that
: you could forward I would be grateful.

Check out QST. A few (less than 12) months ago they had an article about
the "Easy Sats" (RS-10) which talked about the requirements for getting on
the air through the birds.

My first setup was fairly modest, but was still good enough to make a number
of contacts. Assuming you want to start with Phone on RS-10, you'll need:

An uplink transmitter - 2 meters SSB, 10+ watts, J-pole or ground plane ant.
A downlink receiver - I used my Radio Shack DX-440 shortwave radio. Turn
on the BFO to receive the SSB signal. Dipole or long wire antenna.
A computer with a satellite tracking program & a current set of elements.

This will get you into RS-10. Other satellites are harder (i.e. more power,
bigger antennas).

Good luck!

Greg KD6KGW

Date: 9 May 1994 12:37:18 GMT
From: ihnp4.ucsd.edu!agate!howland.reston.ans.net!xlink.net!nntp.gmd.de!
NewsWatcher!user@network.ucsd.edu
Subject: Re: Re APT Wheather
To: ham-space@ucsd.edu

In article <CpJ3JC.2x1@bbc.co.uk>, boyer@rd.eng.bbc.co.uk (John Boyer)
wrote:

> Herb Dieben (ag381@FreeNet.Carleton.CA) wrote:
>
>
> : What would be the 'best case' resolution of NOAA's either or VIS / IR
> : or both. Another way of asking is what number of pixels do their sensors
> : use? Also while we are at it, what is 'best case' gray scale resolution?
> : Let me know if you can. Or perhaps direct me to a reliable source for
> : this info.
> : Thank you, reader!
>
>
> Best case horizontal resolution is 4800 pixels per line. The grey scale
> resolution depends on your convertor.
>

>
> john b
> john.boyer@rd.eng.bbc.co.uk

Oh, I am in doubt....if you talk about APT.
Subcarrier is 2400 Hz, AM-modulated max 1600 Hz, 2 Lines/sec
containing a vis-Line and a Th.IR-line. So we can rely on just
not very much more than 400 dots per line. This gives a pixel-
resolution of 7.2 km x 3.6 km (scan-dir x orbit-direction).
Resolution of greyscale is not better than 1:200 (if you reach that,
normally your converter will achieve 1:64 or so): APT is an
analog format.
HRPT-Resolution is 2048 Pix/lin, 10 Bit depth per channel, a frame
has 5 channels, 6 frames per second. Resolution is just below 1x1 km.
10 Bit depth: HRPT is a digital format, you will see the full
resolution or nothing.

Regards
Peter

```
+-----+
|Peter Henne (peter.henne@gmd.de)      |
|          (henne@gmd.de)              |
|German Nat.Research Center.f.Comp.Science |
|D-53754 St.AUGUSTIN, Germany          |
+-----+
```

Date: 9 May 1994 12:04:34 GMT
From: ihnp4.ucsd.edu!swrinde!cs.utexas.edu!howland.reston.ans.net!pipex!sunic!
EU.net!Germany.EU.net!nntp.gmd.de!NewsWatcher!user@network.ucsd.edu
Subject: TEST
To: ham-space@ucsd.edu

Test, please ignore

```
+-----+
|Peter Henne (peter.henne@gmd.de)      |
|          (henne@gmd.de)              |
|German Nat.Research Center.f.Comp.Science |
|D-53754 St.AUGUSTIN, Germany          |
+-----+
```

Date: 9 May 1994 12:19:24 GMT
From: ihnp4.ucsd.edu!swrinde!gatech!howland.reston.ans.net!pipex!warwick!uknet!

EU.net!Germany.EU.net!nntp.gmd.de!NewsWatcher!user@network.ucsd.edu
Subject: What are MET-3/4, MET-3/5 and MET-2/21?
To: ham-space@ucsd.edu

In article <2qktnt\$9js@usenet.INS.CWRU.Edu>, dt650@cleveland.Freenet.Edu
(David J. Mullenix) wrote:

>
> I notice that the March/April issue of the "AMSAT Journal"
> has orbital elements for three satellites named MET-3/4, MET-3/5
> and MET-2/21, NORAD Ids 21232, 21655 and 22782 respectively.
> What are these satellites? Do they have any accessable
> amateur gear on board? If so, what are the frequencies and
> modulation?
>
> Thanks,
> Dave, N9LTD

Meteor 3-4 and Meteor 3-5 are Weather-Satellites lauched by the
former USSR. Meteor 2-21 is one of the older Meteor-2 - Class-
Weather-Satellites, lauched end of 1993 by Russia. Met 3-5 and
Met 2-21 transmit real-time-images using APT (Automatic Picture
Transmission) on 137.85 MHz (3-5) and 137.40 MHz (2-21). They
use FM-Modulation (15 kHz deviation) to transmit an AM-Subcarrier
of 2400 Hz modulated by the image, 2 lines per second, max 1600 Hz
image-data. No "classical" amateur-gear (transponder/repeater etc).

Hope that helps a little
Peter

```
+-----+
|Peter Henne (peter.henne@gmd.de)      |
|          (henne@gmd.de)              |
|German Nat.Research Center.f.Comp.Science |
|D-53754 St.AUGUSTIN, Germany          |
+-----+
```

End of Ham-Space Digest V94 #119
